

CLAIMS

1. A method of recovering microbial cells in a bioleaching process comprising:
 - a. subjecting a slurry produced in a bioleaching plant to a solid/liquid separation process; and
 - 5 b. extracting microbial cells from the resulting liquid, wherein the microbial cells are extracted using one a technique selected from the group consisting of a continuous centrifugal process, a batch centrifugal process, a continuous concentration process that includes concentrating the cells by subjecting the resulting liquid to a membrane filtration process wherein the cells are accumulated
 - 10 onto an inner surface of the membrane and are then removed by back flushing or washing.
2. The method of claim 1 wherein the microbial cells are separated from metal in solution in the resulting liquid.
3. The method of claim 1 wherein the microbial cells are extracted using a
- 15 plurality of extraction phases, which are operated in series.
4. The method of claim 1 wherein the bioleaching plant includes a plurality of bioleaching reactors connected in series,
5. The method of claim 1 further comprising recycling the microbial cells to at least one bioleaching reactor.
- 20 6. The method of claim 1 further comprising storing the extracted cells.
7. The method of claim 1 further comprising packaging the extracted cells.
8. The method of claim 1 further comprising freeze-drying the extracted cells.
9. The method of claim 1 wherein the extracted cells are subsequently used as a backup inoculum.
- 25 10. The method of claim 1 further comprising inoculating a new bioleaching reactor with the extracted cells.

11. The method of claim 1 further comprising re-inoculating a currently used bioleaching reactor.

12. The method of claim 1 further comprising extracting at least one of an enzyme and a protein from the extracted cells.